



FSA Acreage Data Could Imply Higher Ending Stocks and Lower Prices

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Last week the USDA's National Agricultural Statistics Service (or NASS) released crop acreage estimates in its World Agricultural Supply and Demand Estimates (WASDE) report, while the USDA's Farm Service Agency (FSA) reported crop acreage enrolled in farm programs. WASDE reports typically utilize the most recent acreage estimates produced by NASS, which are published four times per year starting with the Prospective Plantings report in March, the Acreage report in June, the Crop Production report in October, and an Annual Summary in January. As the August WASDE report reflects acreage estimates from the June Acreage report, FSA data on planted acres enrolled in farm programs, which are initially reported in August and updated on a monthly basis through January, may provide timely insights.

A prior [farmdoc](#) study (Irwin and Hubbs 2020) uses a two-step approach to show that, as early as August, FSA numbers offer a fairly accurate projection of the final acreage estimates reported in the NASS Annual Summary in January. Here, the relationships within that two-step approach are updated based on just the most recent two years. Given that the just released FSA numbers are reported as of August 9, and corresponding releases were as of August 2 in 2021 and August 22 in 2022, these last two years should, on average, closely approximate relationships for the current data, as prior years generally reflect acreage enrollments as of August 1, which tend to increase throughout the season. First, with respect to the FSA data, corn and soybean acreage enrolled in farm programs by August respectively average 99.3% and 99.4% of that in January, which reflects modest increases in enrollment over the season. Second, January FSA acreage numbers for corn and soybeans respectively average 98.0% and 99.0% of NASS estimates in the January Annual Summary. These average statistics can be applied to August FSA acreage data to produce planted acreage estimates that can substituted for those in the supply and demand balance sheets of WASDE reports, thereby offering further insights for price outlook. Thus, alternative final planted acreage estimates can be produced as shown below.

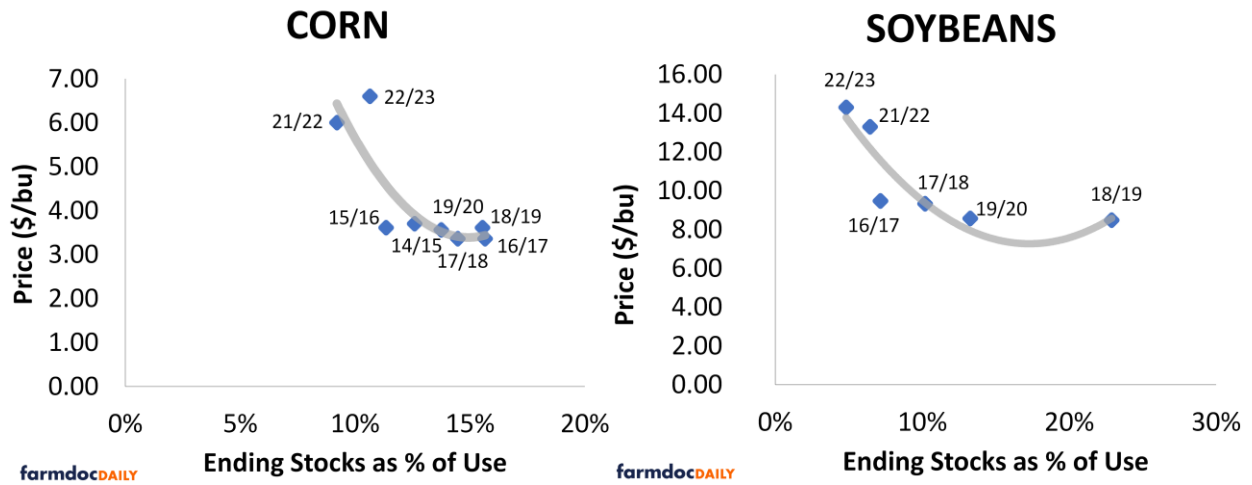
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	FSA August Planted Acreage		Step1: Assumed Ratio Preliminary/Final		Step 2: Assumed Ratio FSA/NASS		Estimated Final FSA Planted Acreage
Corn	93,030,602	÷	99.3%	÷	98.0%	=	95,583,606
Soybeans	82,615,421	÷	99.4%	÷	99.0%	=	83,996,130

Replacing the WASDE acreage estimates with those obtained here, and retaining other assumptions from the WASDE supply and demand balance sheet facilitates an alternative outlook and corresponding price projections. The analysis of FSA data suggests that planted acreage could be 1.6% higher for corn and 0.6% higher for soybeans than indicated by the WASDE report. Assuming the same percentage of planted acres harvested (92% for corn and 99% for soybeans), the larger FSA-based planted acreage estimates translate into more harvested acres. Adopting the same yields, beginning stocks, and imports implies greater supply that, combined with identical assumptions about disappearance, lead to higher ending stocks relative to total use, which should suggest lower prices. Given that supply and demand jointly determine price in economic theory, the stocks-to-use ratio, which reflects the supply carried over after meeting demand for that crop year, should be inversely related to price and is commonly considered, among other things, in price forecasts for storable agricultural commodities. Here, statistical models approximate those relationships depicted graphically below and project annual average prices of \$4.61/bu for corn and \$12.19/bu for soybeans.

	Aug WASDE	<i>farmdoc</i> Forecast	Soybeans	Aug WASDE	<i>farmdoc</i> Forecast
Corn					
Area Planted (mil. acres)	94.1	95.6	Area Planted (mil. acres)	83.5	84.0
Area Harvested (mil. acres)	86.3	87.7	Area Harvested (mil. acres)	82.7	83.2
Yield (bu./acre)	175.1	175.1	Yield (bu./acre)	50.9	50.9
Beginning Stocks (mil. bu.)	1,457	1,457	Beginning Stocks (mil. bu.)	260	260
Production (mil. bu.)	5,111	15,349	Production (mil. bu.)	4,205	4,234
Imports (mil. bu.)	25	25	Imports (mil. bu.)	30	30
Total Supply (mil. bu.)	16,592	16,831	Total Supply (mil. bu.)	4,496	4,524
Feed and Residual (mil. bu.)	5,625	5,625	Crushings (mil. bu.)	2,300	2,300
Food, Seed & Indust (mil. bu.)	6,715	6,715	Seed (mil. bu.)	101	101
Ethanol & bproducts (mil. bu.)	5,300	5,300	Residual (mil. bu.)	25	25
Domestic Total (mil. bu.)	12,340	12,340	Domestic Total (mil. bu.)	2,426	2,426
Exports (mil. bu.)	2,050	2,050	Exports (mil. bu.)	1,825	1,825
Total Use (mil. bu.)	14,390	14,390	Total Use (mil. bu.)	4,251	4,251
Ending Stocks (mil. bu.)	2,202	2,441	Ending Stocks (mil. bu.)	245	273
Ending Stocks/Total Use (%)	15.30%	16.97%	Ending Stocks/Total Use (%)	5.76%	6.43%
Average Farm Price (\$/bu.)	\$4.90	\$4.61	Average Farm Price (\$/bu.)	\$12.70	\$12.19

Note: Bolded statistics differ from WASDE due to substitution of FSA-based acreage estimates.



As a caveat, in the last two years used to model the FSA-NASS acreage relationships, FSA reported acreage enrollments have grown less from August to January than in the past, and January FSA and NASS data have been more similar, which may reflect greater enrollment of planted acres in farm programs. If those trends continue, then the approach used here could overestimate acreages and underestimate prices somewhat, but if this year turns out to be more like earlier years, then even higher acreages and lower prices may be realized. These points coupled with the yield implications of much needed rains falling around the release of the last WASDE report and since, suggest it is prudent to think about downside risk management.

YouTube Video: Discussion and graphs associated with this article at <https://youtu.be/9ny2bddcASg>

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